



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 145  
License No. DPR-32

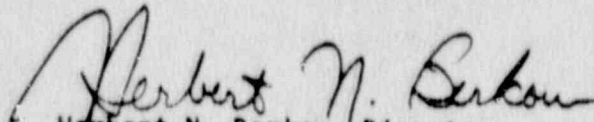
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated June 26, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective prior to Cycle 11 Startup.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects - 1/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 11, 1990

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 145 FACILITY OPERATING LICENSE NO. DPR-32

DOCKET NO. 50-280

Revise Appendix A as follows:

Remove Pages

TS 3.23-1  
TS 3.23-2  
TS 3.23-3  
TS 3.23-4  
TS 3.23-5

Insert Pages

TS 3.23-1  
TS 3.23-2  
TS 3.23-3  
TS 3.23-4  
TS 3.23-5

### 3.23 MAIN CONTROL ROOM AND EMERGENCY SWITCHGEAR ROOM VENTILATION AND AIR CONDITIONING SYSTEMS

#### Applicability

Applies to the main control room (MCR) and emergency switchgear room (ESGR) air conditioning system and emergency ventilation system.

#### Objective

To specify requirements to ensure the proper function of the main control and emergency switchgear room air conditioning system and emergency ventilation system.

#### Specification

- A. Both trains of the main control and emergency switchgear rooms' emergency ventilation system shall be operable whenever either unit is above cold shutdown.
- B. With one train of the main control and emergency switchgear room emergency ventilation system inoperable for any reason, return the inoperable train to a operable status within 7 days or be in at least Hot Shutdown within the next 6 hours and in Cold Shutdown within the following 48 hours.
- C. The main control and emergency switchgear room air conditioning system shall be operable as delineated in the following:
  1. Chiller Refrigeration Units
    - a. Chillers 1-VS-E-4A, 4B, and 4C must be operable whenever either unit is above Cold Shutdown.
    - b. If one chiller becomes inoperable, return the inoperable chiller to operable status within seven (7) days or bring both units to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.



## 2. Air Handling Units (AHU)

- a. Unit 1 air handling units, 1-VS-AC-1, 1-VS-AC-2, 1-VS-AC-6, and 1-VS-AC-7, must be operable whenever Unit 1 is above Cold Shutdown.
  - 1. If one Unit 1 AHU becomes inoperable, return the inoperable AHU to operable status within seven (7) days or bring Unit 1 to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.
- b. Unit 2 air handling units, 2-VS-AC-8, 2-VS-AC-9, 2-VS-AC-6, and 2-VS-AC-7 must be operable whenever Unit 2 is above Cold Shutdown.
  - 1. If one Unit 2 MCR AHU becomes inoperable, return the inoperable AHU to operable status within seven (7) days or bring Unit 2 to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.
  - \*2. If one Unit 2 ESGR AHU becomes inoperable, bring Unit 2 to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.
- \*c. Unit 2 ESGR AHU drive motors, 2-VS-FMO-6A, 2-VS-FMO-6B, 2-VS-FMO-7A, and 2-VS-FMO-7B must be operable whenever Unit 2 is above Cold Shutdown.

This interim specification is necessary until the air conditioning system modifications scheduled for 1991 are completed. Following completion of the permanent modifications, a revised air conditioning system specification will be submitted.

1. If a Unit 2 ESGR AHU drive motor becomes inoperable, return the inoperable drive motor to operable status within seven (7) days or bring Unit 2 to Hot Shutdown within six (6) hours and be in Cold Shutdown within the following 30 hours.

### Basis

When the supply of compressed bottled air is depleted, the main control room and emergency switchgear room emergency ventilation system is manually started to continue to maintain the control room pressure at the design positive pressure so that leakage is outleakage. One train of the main control room emergency ventilation consists of one fan powered from an independent emergency power source.

The main control and emergency switchgear room emergency ventilation system is designed to filter the intake air to the control room pressure envelope, which consists of the control room, relay rooms, and emergency switchgear rooms during a LOCA.

High efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential intake of radioiodine to the control room. The in-place test results should indicate a system leaktightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of at least 99.5 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 95 percent for expected accident conditions. The control room dose calculations assume only 90 percent iodine removal efficiency for the air passing through the charcoal filters. Therefore, if the efficiencies of the HEPA filters and charcoal adsorbers are as specified, at the temperatures, flow rates and velocities within the design values of the system, the resulting doses will be less than the allowable levels stated in Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10 CFR Part 50.



If the system is found to be inoperable, there is no immediate threat to the control room, and reactor operation may continue for a limited period of time while repairs are being made. If the system cannot be repaired within the specified time, procedures are initiated to establish conditions for which the filter system is not required.

The Main Control Room and Emergency Switchgear Room Air Conditioning System cools the control room, the control room annex, and the Units 1 and 2 emergency switchgear and relay rooms. The air conditioning system includes three chillers (1-VS-E-4A, 4B, and 4C) and eight air handling units (1-VS-AC-1, 2, 6, and 7 and 2-VS-AC-6, 7, 8, and 9).

Interim modifications were completed on the MCR and ESGR Air Conditioning System to address interim failure and increased cooling requirements for the ESGRs. The interim modifications included installation of redundant drive motors and power supplies to the Units 1 and 2 ESGR AHUs and a redundant power supply to the 1-VS-E-4B chiller. Permanent modifications will include replacement of the CR and ESGR AHUs and installation of an additional chiller to supplement the existing chillers. The new higher capacity AHUs and additional chiller will restore the redundancy of the original system design.

The Unit 1 MCR and ESGR AHUs have been replaced in the first phase of the permanent modification. The Unit 2 MCR and ESGR AHUs will be replaced during the next Unit 2 refueling outage. As a result of the first phase modifications, the following MCR and ESGR Air Conditioning System equipment will be required to operate to maintain design temperatures under maximum heat load calculations:

- 1) Two chillers
- 2) One Unit 1 MCR AHU and one Unit 1 ESGR AHU
- 3) One Unit 2 MCR AHU and two Unit 2 ESGR AHUs

Continued system operating restrictions will be imposed on the MCR and ESGR Air Conditioning System until the permanent system upgrades are completed. The basis for the interim restrictions is as follows:

Taking credible single failures into consideration requires that redundant equipment be available during operation. As such, the three chillers and the MCR and ESGR must be operable when at power operation. Further, both drive motors on each Unit 2 ESGR AHU must be operable.

In addition to the equipment restrictions above, a fire watch will be required during this interim period in both unit's ESGF and MER #3 to address Appendix R considerations.